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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/633,609 | 07/31/2003 | Laurakay Bruhn | 10021296-1 | 5153 |

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

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| EXAMINER |
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LIN, JERRY

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| ART UNIT | PAPER NUMBER |
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1631

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,609

Applicant(s)

BRUHN ET AL.

Examiner

Jerry Lin

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 14-16, 20-33, 35-48, 51-55 and 58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-19, 34, 49, 50, 56, 57 and 59-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1 page (7/31/2003).

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Species A (claims 1-13, 17-19, 34, 49, 50, 56, 57, 59-63 in the reply filed on March 21, 2006 and July 5, 2006 is acknowledged.

Status of the Claims

Claims 1-13, 17-19, 34, 49, 50, 56, 57, and 59-63 are under examination.

Claims 14-16, 20-33, 35-48, 51-55, and 58 are withdrawn as being drawn to an unelected invention.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13, 17-19, 34, 56, 57 and 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1-13, 17-19, 34, 56, and 57 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: when the chemical array unit is used. Instant claim 1 begins with the preamble of "a method of using a chemical array." However, the instant claims contain no step of "using a

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chemical array." The instant claims are only drawn to retrieving data from sub-arrays.

Thus, the instant claims are missing essential steps.

5. Claim 62 recites the limitation of a "remote location." The instant specification teaches on page 7 that a "remote location" is a location that is at least in a different building. However, it is unclear in the instant claim if the process of claim 61 is performed in a different building than from origination of the identifier and test request, ~~or~~ ^{or} that the process is merely downloaded to the remote location and the process takes place at the remote location. For purposes of this Office Action, the latter interpretation will be used. ✓

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-13, 34, 49, 50, 56, 57, and 59-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Jain et al. (Genome Research (February 2006) Volume 12, pages 325-332).

The instant claims are drawn to a method of identifying sub-arrays of an array that includes reading a request for a test that uses a sub-array and retrieving the sub-array from the memory using the test request.

Regarding claims 1, 7, 59, and 60, Jain et al. teach a method wherein a request for a test (i.e. determining ratios) is read (inputted) that uses a sub-array (page 326, left column); and a pattern of the sub-array is retrieved using the test-request from memory (page 326).

Regarding claim 2, Jain et al. teach wherein the memory carries multiple sub-array patterns (page 326, left column).

Regarding claims 3 and 61, Jain et al. teach wherein a sub-array pattern is retrieved using an array identifier with a test request, wherein the sub-array pattern is stored on a memory (page 328, left column; page 326, left column).

Regarding claim 4, 8, 9, and 10, Jain et al. teach wherein the array unit carries an array identifier (page 328, left column).

Regarding claims 5, 6, 12, and 13, Jain et al. teach wherein the signal data outside the feature locations of the sub-array are not saved (page 327, left column, Figure 3.), and where the same signal processing method is applied to signal data that represents the binding of a sample component.

Regarding claim 11, Jain et al. disclose wherein multiple requests for tests are read (calculating the ratios and statistical quality measures) which use different sub-arrays of the array, and the pattern is retrieved (page 326, left column; page 327; page 328, left column).

Regarding claim 34, Jain et al. disclose wherein the sample is from an individual (i.e. a biological sample) (abstract) and that the a sub-array pattern is retrieved using identification of an individual (page 328, left column).

Regarding claims 49 and 50, Jain et al. disclose using a custom-build CCD system, which would include an interrogating source, a detector, a light source, and a processor (page 329, left column, top, page 328, left column).

Regarding claims 56, 57, and 63, Jain et al. discloses their method as a computer program product on a computer readable medium (page 328, left column; page 326).

Regarding claim 62, Jain et al. teaches that their program may be downloaded to a remote location (page 328, left column).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 17 -19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. (Genome Research (February 2006) Volume 12, pages 325-332) in view of Podyminogin et al. (Nucleic Acids Research (2001) Volume 29, Number 24, pages 5090-5098).

The instant claims are drawn to wherein the feature locations of sub-array patterns outside the retrieved sub-array pattern are incapable of providing a signal data due to cross-linking.

Jain et al. is applied as above.

Although Jain et al. does show wherein feature locations outside the retrieved sub-array pattern do not have signal data, Jain et al. does not teach that this lack of signal data is due to damage from cross-linking or cleavage.

Podyminogin et al. teach that the lack of binding may be caused by cross-linking or cleavage (page 5090, left column)

It would have been obvious to one of ordinary skill in the art at the time of the invention to discern why a no signal data was being produced at a feature location. Although Jain et al. do not speculate possible reasons why a signal data is not present, it is well known in the art that a cleaved probe may not be able to continue to bind to its target or that cross-linking can damage a probe as stated by Podyminogin et al. Given that these are well-known problems with probes, one of ordinary skill in the art could have arrived at the conclusion that the probes were damaged either by cross-linking or cleavage. Furthermore, one of ordinary skill in the art would be motivated to discern the

problems with the probes in order to fix the problem and conduct an accurate experiment.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00am-6:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Representatives are available to answer your questions daily from 6 am to midnight (EST). When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has

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been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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MICHAEL BORIN, PH.D
PRIMARY EXAMINER



JL